DOCUMENT RESUME

ED 165 196 CS 502 309

AUTHOR Cernada, George; Sun, T. H.
TITLE Knowledge into Action: The Use of Research in Taiwan's Family Planning Program. Paper No. 10.
INSTITUTION Hawaii Univ., Honolulu. East-West Center.
PUB DATE Jul 74
NOTE 43p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Case Studies; *Change Strategies; *Communication (Thought Transfer); Contraception; *Family Planning; Foreign Countries; Information Utilization; *National Programs; Research; *Research Utilization
IDENTIFIERS Communication Research; *Taiwan

ABSTRACT

Focusing on the effects that research on the Taiwan family planning program has had on social change, both in the intergration of research findings into national action programs and in the dissemination of these ideas to other Asian countries, this report discusses five individual case studies and presents a summary and analysis of the research data. The first case illustrates how an action-oriented research program served as a base for the national expansion of an individual program and describes the organizational setup and approaches that expedited research utilization. A communication-oriented study with clear objectives, stressed in the second case, demonstrates the value of a single agency, the importance of feedback, the value of building on previous research, and the benefits of communication among research and staff members. The third case describes a nonfertility incentive plan, its regional implications, and the role of foreign aid in implementing the plan. The final two cases illustrate, respectively, reasons why contraceptive research findings are not applied and the value of giving close attention to feedback from field workers and consumers of the service. (MAI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED165196

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

KNOWLEDGE INTO ACTION: THE USE OF RESEARCH IN TAIWAN'S FAMILY PLANNING PROGRAM

by

GEORGE CERNADA

and

T. H. SUN

July 1974

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

East-West Center

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

No. 10

Papers of the East-West Communication Institute
1777 East-West Road, Honolulu, Hawaii 96822

CS502309

ABSTRACT

The major focus of this paper is why the research carried out in the Taiwan family planning program had an effect on the planned program of social change--both in the productive integration of research findings into national action programs and in the dissemination of these ideas to other Asian countries. The five studies selected for discussion are intended to illustrate some of the factors related to why family planning research was used--or not used--in Taiwan. At the end of the five case studies is a summary of the factors that assisted or hindered research utilization throughout the history of Taiwan's family planning program and an analysis of some of the especially favorable factors in the Taiwan situation.

ACKNOWLEDGMENTS

This paper covers the work of the Committee on Family Planning and its predecessor the former Taiwan Population Studies Center of the Taiwan Provincial Health Department. Special thanks are due to the present and former staff of both for their contributions and also to such key figures as Minister K.T. Li, B. Berelson, S.Y. Chen, Dr. L.P. Chow, O.D. Finnigan, R. Freedman, R. Gillespie, V. Jamieson, A. Hermalin, Dr. S.C. Hsu, L. Kincaid, Dr. T.C. Hsu, Dr. H.T. Hu, S.M. Keeny, Dr. J. LoComte, L. Lu, J.Y. Peng, Dr. J. Russell, Everett Rogers, L. Springfield, J.Y. Takeshita, Dr. C.M. Wang, Dr. R. Worrall, Dr. C.H. Yen.

Dr. Cernada is The Resident Advisor at The Population Council in Taichung, Taiwan, Republic of China. Dr. Sun is Executive Secretary of the Committee on Family Planning at the Taiwan Health Department, Taiwan, Republic of China.

CONTENTS

ABSTRACT AND ACKNOWLEDGMENTS ii

FOREWORD v

INTRODUCTION AND SUMMARY OF THE REPORT 1

CASE NUMBER ONE: THE TAICHUNG STUDY 2
- How Research Needs Were Determined 2
- Description of the Study 3
- Results 4
- The Time Required for Research to be Utilized 4
- Organization and Approaches which Expedited the Utilization 5
- Program Use of the Results 5
- Wider Use of the Results: Documentation and Dissemination 6
- Notes 7

CASE NUMBER TWO: EXPANDING THE USE OF MASS MEDIA--THE KAOHSIUNG STUDY 8
- The Need for Research 8
- Description of the Study 9
- Results and Their Use 9
- Comments 15
- Notes 15

CASE NUMBER THREE: THE EDUCATIONAL SAVINGS PLAN 16
- Background and Need for Action 16
- The Program 17
  - Baseline Survey 19
  - First Enrollment 21
  - Mini-Surveys 22
  - Re-Enrollment 22
- Evaluation 22
- Comments 23
- Notes 24

CASE NUMBER FOUR: HOW TO PRICE ORAL CONTRACEPTIVES 25
- Need for the Research 25
- Results 26
- Notes 27

CASE NUMBER FIVE: FREE OFFERS
FOR A LIMITED TIME ONLY 28
Need for the Project 28
Results 28
Comments 29
Notes 30

THE TAIWAN EXPERIENCE IN USING RESEARCH:
SUMMARY AND ANALYSIS 31
Summary of Factors Related to Research Use 31
Favorable Factors 31
Unfavorable Factors 32
An Analysis and Details of Favorable Factors 33
Determination of Research Needs 33
Organizational Arrangements 34
Staffing 34
Funding 35
Use of Results 35
Documentation and Dissemination 36

FOREWORD

The body of knowledge and experience in planning, implementing, and evaluating development programs is already extensive and rapidly expanding. Yet understanding and appreciation of the role of communication in applying this knowledge is lacking. Those who conduct development programs simultaneously suffer from the "information explosion" and from the unavailability of relevant and usable knowledge. Techniques of application used successfully in one sector of development often have to be rediscovered in other sectors.

To address this problem, the Communication Institute conducts a variety of activities within a project devoted to better "Application of Knowledge." Since 1970, EWCI has been developing its capability to serve as a resource base for the IEC (information, education, and communication) components of population and family planning programs, drawing from other areas of developmental communication expertise and contributing to them lessons learned in the population area. The Institute maintains a substantial collection of IEC materials, which it codes by subject area and makes available on an exchange basis; holds conferences, seminars, and workshops on the problem area; and conducts research on the communication processes involved in linking those who conduct research with those who use it in development programs.

As part of an annual conference series and continuing assessment of program needs, EWCI held a conference in 1973 on the subject "Making Population and Family Planning Research Useful: The Communicator's Contribution." An important source of input for the conference was information emanating from the Institute's series of case studies of innovative IEC applications.

One of the case studies introduced into the conference recognized the unique experience of the Taiwan family planning program in terms of its systematic use of research to alter and guide its activities. Dr. T. H. Sun, Executive Secretary of the Committee on Family Planning of the Taiwan Health Department, and Dr. George Cernada, Resident Advisor for the Population Council in Taiwan, cooperated with Dr. D. L. Kincaid of the Institute staff in analyzing Taiwan's experience, including how research needs were determined, organizational arrangements, staffing patterns, funding, documentation and dissemination, and use of results. Dr. Cernada presented the resulting paper during the conference.

This cooperative activity, resulting from continuing interaction between Institute staff and IEC staff of population programs, is an example of Institute attempts to achieve the goal of better understanding through work on problems of mutual concern to East and West.

--Robert P. Worrall
Assistant Director
East-West Communication Institute

INTRODUCTION AND SUMMARY OF THE REPORT

There seems to be a general consensus that research utilization in the area of population and family planning communication has been less than ideal. The experience of the Taiwan family planning program is a notable exception--both in the integration of research findings into national action and in the dissemination of these ideas to other Asian countries where they have been replicated in studies and applied to family planning programs. The major focus of this paper is why the research carried out had an effect on the planned program of social change. But we would be less than candid if we did not admit that Taiwan has had both failures and successes; and because we have learned from some of our mistakes, we call the reasons for them to your attention. The five studies selected for discussion here are thus intended to illustrate some of the factors related to why family planning research was used--or not used--in Taiwan.

The first case, "The Taichung Study," illustrates how an action-oriented research program served as a base for national expansion of a program; what kind of organizational setup and approaches expedited research utilization; and how research results were used (particularly their diffusion).

The second case, "Expanding the Use of Mass Media: The Kaohsiung Study," demonstrates how a communication-oriented study with clear-cut objectives can affect a national action family planning program; the value of a research and action program being carried out by a single agency; the importance of quick feedback of study results; the value of building on previous research; and the benefits of cooperation between research and program staff.

The "Educational Savings Plan" study shows how previous research results were used to plan a non-fertility incentive program; how that research also showed the regional implications of a problem's solution, thus making available foreign aid which helped stimulate the development of this innovative project; and some of the problems involved in influencing leaders to take action based on study.

"How to Price Oral Contraceptives" illustrates some of the reasons research results are not applied: there was no budget available for implementing the findings, and the findings were not available by the time a decision had to be made.

"Free Offers for a Limited Time Only" illustrates the value of close attention to feedback from the field workers and the consumers of service and of flexibility in the research design.

At the end of the five case studies is a summary of the factors that assisted or hindered research utilization throughout the history of Taiwan's family planning program and an analysis of some of the especially favorable factors in the Taiwan situation.

CASE NUMBER ONE:
THE TAICHUNG STUDY

This case study illustrates: (1) how an action-oriented research program in Taichung City (pop. 300,000), the capital of the Province of Taiwan, was organized, and how it served as the base for expansion to an island-wide program; (2) what kind of organizational setup and approaches expedited the utilization of the research results; and (3) how the research results were utilized, especially the information diffusion methods.

HOW RESEARCH NEEDS WERE DETERMINED

The Joint (Sino-American) Commission on Rural Reconstruction (JCRR), being aware of the problems caused by the rapid population growth in Taiwan, played an important role in promoting the early developing stage of the national family planning program. It stimulated and assisted government agencies, such as the Taiwan Provincial Government, especially the Health Department, to initiate informal family planning programs. It also assisted in establishing the Taiwan Population Studies Center (TPSC) in the Provincial Health Department in 1961, with financial assistance from the Population Council of New York and technical collaboration of the Population Studies Center of the University of Michigan. One of the objectives of the TPSC was to uncover the fertility behavior of Taiwanese women so that necessary actions could be taken to reduce fertility. Up to that time, there had been no large-scale family planning activities except the "pre-pregnancy health" (PPH) program in Nantou County and the limited activities of the Family Planning Association of China, and the contraceptive methods used were all conventional. Several key Chinese health officials, especially Dr. S. C. Hsu of the JCRR and Dr. C. H. Yen, the Provincial Health Commissioner, felt that a larger effort was desirable. However, none of the staff had either experience in or knowledge of how to proceed with a large-scale family planning program. Therefore, the Population Council, a U.S.-based educational foundation, was consulted to help conduct a pilot project that would test both the feasibility of a more intensive field program and the acceptability of the new IUD. Arrangements were made for the University of Michigan Population Studies Center to provide consultation for the Taiwan Center to conduct the necessary research.

The initial plans were for intensive pilot programs in one or two districts of Taichung City, and perhaps also in a few village areas scattered over the island. A sample survey covering the city of Taichung was planned to measure women's knowledge, attitudes, and practices for use in general education and informational

programs. The planned pilot programs were escalated to cover the whole city after the rather unexpected success of small-scale pilot action projects and pre-test surveys late in 1961 and early in 1962. The obvious popular interest and demand, as well as the fact that no significant technical or political problems developed in these pilot phases, were the basis for increasing the scale of the program. The decision was made in July 1962 to cover all of Taichung in the project and to use a large experimental design which might test a number of important questions.

DESCRIPTION OF THE STUDY

The objectives of the Taichung Study were to answer the following major questions about planning and operating a family planning program:

1. To what extent can the practice of family planning be increased by a massive information and service campaign of short duration?
2. Is it necessary to approach both husbands and wives in an educational program, or is it enough to approach the wife alone?
3. Can family planning ideas be spread cheaply and simply by written communication, through the mails?
4. Can direct communication to systematically spaced subgroups of a population indirectly affect a much larger population by diffusion from the initial foci of direct contact?
5. Does a new method of contraception, the intrauterine contraceptive device (IUD), have distinctive advantages in terms of acceptance and diffusion?
6. If there is a significant adoption of family planning, will it accelerate the decline of fertility already begun in Taichung and Taiwan?
7. Which demographic and social characteristics of couples are most important in determining whether or not they accept family planning in an organized program?
8. What are the characteristics of the large proportion of the couples who express an intention to accept family planning but fail to do so?
9. Was the recent fertility of those accepting family planning high enough so that their use of effective contraception could have produced a distinctively large reduction in birth rates?
10. Which characteristics of couples are related to persistence in effective use of family planning once it is accepted?
11. How did the discussion and perception of what others were doing about family planning affect information and acceptance?

The study was designed by Bernard Berelson of the Population Council and Ronald Freedman of the Population Studies Center of the University of Michigan; it was implemented by Dr. J. Y. Peng, then acting director of the Taiwan Maternal and Child Health Institute. Its basic design divided the city into comparable parts, each part to receive a different intensity of treatment: (1) nothing except posters and some meetings; (2) mailing plus posters and meetings; (3) all major stimuli except a personal visit to the husband; (4) all stimuli of the program, including a visit to the husband. The program was carried out jointly by the Provincial Maternal and Child Health Institute and the Taiwan Population Studies Center from February to October 1963 with the assistance of the Population Council and the Population Studies Center of the University of Michigan. The Taiwan Population Studies Center conducted pre- and post-surveys as the basis for evaluation of the

program, and the first effects of this intensive effort were observed through March 31, 1964.

RESULTS

The major findings of the study were:[1]

1. A large information and service campaign of short duration can increase the practice of family planning in a large population of a developing country.
2. It may not be necessary to approach both husbands and wives in a family planning program.
3. Letters were not effective in increasing the acceptance rate, although the population is fairly literate.
4. Diffusion played a major part in circulating the message, with effects far beyond those on the couples directly influenced by the program.
5. Effective small group meetings had an important role in increasing the acceptance of the IUD.
6. The new intrauterine device was chosen by a large majority of the acceptors.
7. Taichung's fertility decline was accelerated in the year following the experiment, and in 1963-64 exceeded that of the other cities or of the province by a considerable margin.
8. Many families strongly interested in family planning were helped to adopt more satisfactory and effective methods.
9. Such a large-scale effort could be carried out according to plan, with measured results, without political repercussions, and in such a way as to provide a secure basis for the much larger island-wide effort that immediately followed it.

THE TIME REQUIRED FOR RESEARCH TO BE UTILIZED

The study program had a very good record system for keeping the program directors informed of progress. All activities and acceptances of various contraceptive methods were recorded and reported to the Taiwan Population Studies Center, which analyzed the data quickly to show the results. This quick feedback system enabled the project directors to make preliminary judgments of the success of the program, and therefore a decision could be made--even before the action phase of the experiment was completed--to begin expanding the program to an island-wide basis by early 1964. The personnel and resources concentrated in Taichung were shifted to the larger task.

---

[1] Freedman, R. and J. Y. Takeshita, Family Planning in Taiwan: An Experiment in Social Change, Princeton University Press, 1969.

ORGANIZATION AND APPROACHES WHICH EXPEDITED THE UTILIZATION

The funding organization at that time, JCRR, demanded that the action results be shown so that it could get more funding for the program. This kind of constant pressure encouraged the program operators to look for the most effective and economical approaches found in the research results and to use them. For the Taichung action program, a medical advisory board composed of 11 leading obstetrics and gynecology specialists (OBGs) in Taiwan was organized. The Board carefully studied the new IUDs and gave its approval for their use in Taichung on a pilot basis. After the experimental program in Taichung, the Board gave its approval for use in the island-wide program. Because of this involvement of the leading medical authorities, the program was able to train and get the cooperation of private doctors (mostly OBGs) for loop insertions. Of course, the prior experience of these physicians with the Ota ring, another IUD (of Japanese origin), also helped.

In order to implement the island-wide program more effectively, the Committee on Family Health was organized in September 1964 within the Provincial Health Department and was chaired by the Commissioner of Health. Three of the nine committee members--Commissioner of Health, Chief of the Rural Health Division of JCRR, and the East Asia Representative of the Population Council--formed a standing committee, which met regularly to decide on policy matters and to give technical supervision to the related activities of the voluntary organizations. Under this standing committee, an executive secretary, who was assisted by a three-person working committee, was appointed to carry out the decisions. However, this committee assumed responsibility only for education and motivation. Actual services were provided by the Maternal and Child Health Association (MCHA), a voluntary organization created in 1964. Because of the lack of a national policy on family planning, this voluntary organization played an important role in implementing those decisions inconvenient for the Committee on Family Health to carry out. Their organizational setup had great flexibility, which permitted quick change of program direction according to the findings of the research results. This expedited the research results' utilization.

The Taichung experimental program also served as a training program for TPSC staff, who learned how to operate a program through participation in this study. When the program was found successful, all these personnel were shifted to plan and participate in the island-wide program. The skill and knowledge acquired during the experimental program were transferred to the larger one without difficulty. Another important factor was that the program directors were all research-oriented and were eager to see the research results improve the program.

PROGRAM USE OF THE RESULTS

The most important consequence of the Taichung Study for Taiwan was that it set the stage for a renewed effort to bring family planning to the whole island. The Taichung experience showed program administrators that earlier doubts about the readiness of the population were largely unfounded.

Based on the overwhelming preference in Taichung City for the new IUD, the Lippes loop, the IUD was introduced into the island-wide program.

The PPH field workers (120 of them existed before the program) were found to be effective in motivating women for IUD insertions, and larger numbers of them were recruited and trained (326 by 1966, including Village Health Education Nurses) for the extended action program to motivate wives, first approaching only those with three or more children and with at least one son.

The small group meetings found effective in Taichung were used in some areas and, in a carefully monitored experiment, were found to be more effective per dollar spent than the individual home visits alone.

The Taichung experiment indicated that a recent birth was an important stimulus to acceptance. Building on some of this experience, the island-wide program started mailing information about the IUD with an offer of a free insertion to new mothers shortly after the new baby was registered. Although this was contrary to the finding that mailing was not effective in motivating women, the seeming inconsistency might have been due partly to what had been learned about the timing of the mailing: a letter might be insufficient to motivate a woman at the early stage of the program development, but not in the later stage, when the public had more knowledge and was more ready to accept contraceptives. The same was true in the case of the finding of the small difference between visit to both husband and wife and visit to wife only. This led the program to concentrate on the motivation of wives. Later, the program started to realize that motivation of the husband is also important because of his important role in decisionmaking.

The effectiveness of word-of-mouth diffusion led the program to use volunteers from among satisfied users (of the IUD in particular) to facilitate the spread of information.

Based on the finding that even though many acceptors gave up the IUD, not many gave up the idea of contraceptive practice and because of the limited number of workers, the field workers were instructed to visit uncontacted women rather than to follow up the acceptors. They were also instructed to explore new areas rather than to spend time on the old.

WIDER USE OF THE RESULTS: DOCUMENTATION AND DISSEMINATION

As mentioned above, for the purpose of extensive analysis, the program activities were recorded carefully. The results were analyzed and reported quickly through monthly or interim reports and other preliminary reports such as Berelson and Freedman's article in the Scientific American, May 1964. These reports not only served to educate the program staff but also benefited other countries which were interested in organizing a family planning program. At the time, the Taichung program was the first large-scale success. It had the glamour of sheer size, and was the only one on which there were data. (Later the successes were to become even more wide-scale: the island-wide expansions of the Korean and Taiwan programs from 1965 onward, for example, which helped stimulate programs in the Philippines, Thailand and Indonesia.) Key figures in the U.S. population and scientific establishment (both university and foundation) were actively involved, and this helped the study get considerable circulation internationally. The Population Council, for example, took an active role in disseminating the study results through various publications and informal channels in order to make other countries aware that there had been such a successful trial in Asia.

NOTES

The study results are analyzed and documented in the following main publications (from which we have drawn much of our data):

Berelson, B. and R. Freedman, "A Study in Fertility Control," Scientific American, May 1964.

Freedman, R. and J. Y. Takeshita, Family Planning in Taiwan: An Experiment in Social Change, Princeton University Press, 1969.

Hsu, S. C., From Taboo to National Policy, The Chinese Center for International Training in Family Planning, 1971.

Gillespie, R. and G. Cernada, Family Planning in Taiwan, Republic of China: 1965-1966, Taiwan Population Studies Center, May 1966.

Committee on Family Planning, Taiwan Population Studies Summaries, November 1973.

CASE NUMBER TWO:
EXPANDING THE USE OF MASS MEDIA--
THE KAOHSIUNG STUDY*

The Kaohsiung Study, conducted between 1966 and 1968, serves to illustrate clearly how a communication-oriented study with clear-cut objectives can greatly affect an action-oriented family planning program by serving as a model for a national effort.

THE NEED FOR RESEARCH

The Taiwan IUD-centered program began on an island-wide scale in 1964. It had been preceded by a family planning action-study program, which began in 1962 in Taichung City, the capital of the Province of Taiwan, and by a conventional method-oriented program which provided "pre-pregnancy health" (PPH) services at 120 of Taiwan's 361 local health stations from 1959 to 1963. Since 1964, the main emphasis of the information and education program had been face-to-face communication, carried out by home-visiting family planning workers. Use of the mass media was limited by a lack of official government support for the program (until May 1968), a small budget, and almost no staff. The only use of mass media prior to early 1966 was the limited distribution of news releases. The program was virtually entirely home-visit oriented. In fact, in late December 1965, a survey of key local family planning program leaders and executors showed that the use of mass media had low priority among them, partly due to the low-keyed nature of a program without an official policy behind it.

As it became more evident to program administrators that many key government personnel supported the family planning activities, restrictions on the use of mass media relaxed slightly in 1966. By mid-1966, the key program planners were willing to try out an experimental approach on a small budget to see if mass media could increase acceptance rates. A major city to the south, Kaohsiung, was chosen as the pilot area. Kaohsiung was Taiwan's second largest city and a rapidly growing industrial area. It was chosen for these reasons and because its contraceptive acceptance rate was one of the lowest of the island's 22 county and city areas.

---

*Drawn largely from Cernada, G. and L. Lu, "The Kaohsiung Study," Studies in Family Planning, vol. 3, no. 8, August 1972.

DESCRIPTION OF THE STUDY

The primary purpose of the Kaohsiung study was to prepare for and evaluate a campaign to increase loop practice in Kaohsiung by more active use of mass media, extensive use of this industrial area's organizational network, and increased staff effort. A secondary purpose was to introduce the pill and to find out if it would adversely affect loop acceptances. Taiwan's program was almost exclusively IUD-centered and pill acceptances were limited to those who had discontinued the IUD or had contra-indications to usage.

Prior to the action-oriented program, a sample survey of 1,500 wives was conducted in Kaohsiung City in November 1966 to establish guidelines for carrying out the program. Questions about radio listening habits, movie attendance, newspaper and magazine reading, TV viewing, and attendance at public meetings revealed that the most promising forms of mass media were radio and movies. Questions about family planning knowledge, attitudes, and practice indicated that important groups to reach were the illiterates and those not wanting more children but not practicing contraception. These data were used in campaign design.

The special campaign began in January 1967, using mass media to spread information about family planning. The pill was offered to all wives in Kaohsiung, although its use in the rest of Taiwan was restricted to women who had discontinued the IUD.

A follow-up survey in May 1968 determined (a) the amount and types of exposure to family planning mass media and other public information; (b) changes in knowledge, attitudes, and practice of family planning, particularly with respect to the two program methods (the loop and the pill); and (c) the role the campaign played in promoting change. Longer-term observation was used to determine if providing the pill to all wives who wanted it lowered the acceptances of the loop.

RESULTS AND THEIR USE

The general conclusions were that the campaign was successful in increasing knowledge and acceptance of family planning methods and that the availability of the pill did not decrease acceptance levels for the IUD. Subsequent decisions by the island-wide family planning program directors to use mass media and to introduce the pill throughout the island can in part be attributed to the success of their use in the Kaohsiung Study.

The end results of the intensive Kaohsiung project were dramatic enough to convince program administrators to begin use of mass media on a wider scale. Some graphic illustrations of results follow.

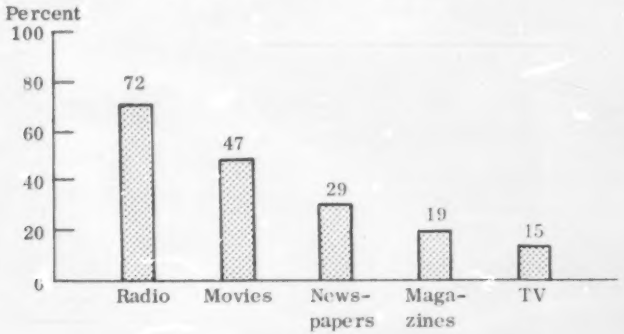
1. Efforts to use public information approaches more extensively broadened staff experience in producing public information materials, identifying audiences, budgeting for and dealing with mass media agencies, and organizing a concentrated effort, particularly with existing organizations other than public health (factories, unions, industrial clinics). The need for an information/education section became clear, and staff were drawn from the project to establish one.

2. The family planning program for the first time acquired information on who listened to the radio, read newspapers or magazines, attended movies, and owned a TV, and on what programs were popular. These findings served as the basis for planning wiser use of public information expenditures. They also served

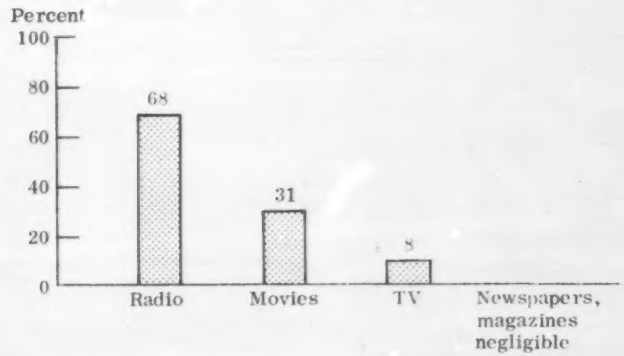
as leverage to gain more funding for public information, particularly through radio, from outside agencies, and later from local sources.

Program administrators were shown slides detailing the mass media audience profile, and several reports and articles were mimeographed in early 1967 and circulated to staff to try to get program leaders to think about the potential for using mass media on a wider scale. These early results were fed into the program as soon as they became available and were keyed to the interests of program administrators--e.g., the then Health Commissioner had expressed considerable interest in radio as a medium and the high level of radio audience was emphasized. Key administrators who had been concerned with the need to reach the poor and illiterate were provided breakdowns of this group as media audience (see Figure 1).

FIGURE 1: PERCENTAGES OF WIVES AGED 20-44 REACHED BY COMMUNICATION CHANNELS: ALL WIVES AND WIVES WITH NO FORMAL EDUCATION



ALL WIVES



WIVES WITH NO FORMAL EDUCATION

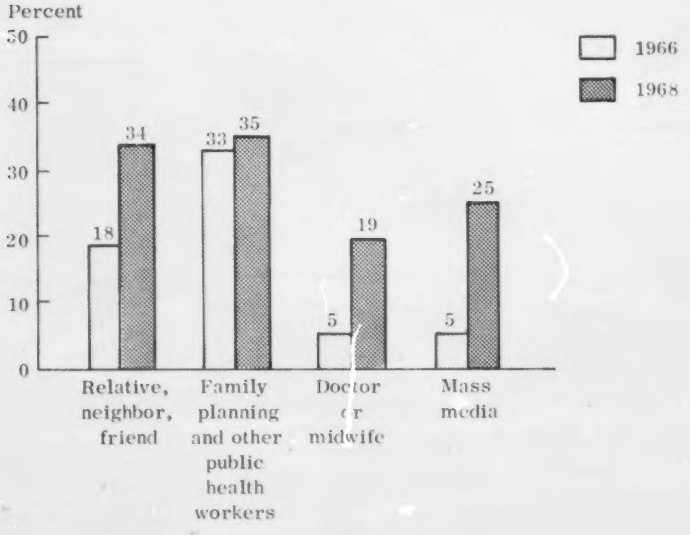
Source: Cernada, G. and L. Lu, "The Kaohsiung Study," Studies in Family Planning, vol. 3, no. 8, August 1972, p. 199.

3. It became clear that public information channels, particularly mass media, can get family planning messages to wives at a comparatively low cost. This finding helped get the island-wide mass media campaign started in 1968.

A good deal of skepticism existed in the program as to whether or not the mass media were too expensive or could help bring couples to accept family planning. This skepticism grew perhaps from a strong orientation toward face-to-face approaches, which had been shown to produce results at low cost, and from a fear of diversion of existing funds from ongoing projects to mass media. Whenever possible, the Kaohsiung Study data were presented as showing that mass media would be a useful supplement to the existing field worker approach. Their relatively low cost was highlighted, as was the possibility of using existing government channels (i.e., radio stations, etc.) to carry out the task at no cost. As larger local budgets became available from 1968 on, the mass media became logical candidates for funding as regular program items.

To demonstrate the value of the mass media in reaching the target audience, the program evaluators spent a good deal of time treating matched cases, discussing ramifications of the pre- and post-surveys (e.g., possible effect of time as a confounding variable), the extent of diffusion beyond the recipients of the media messages, etc. (see Figure 2 and Tables 1, 2, and 3).

FIGURE 2: ALL WIVES BY PERCENTAGES KNOWING OF LOOP BY SOURCE OF INFORMATION: 1966 AND 1968



Source: Cernada, G. and L. Lu, "The Kaohsiung Study," Studies in Family Planning, vol. 3 , no. 8, August 1972, p. 202.

Interestingly enough, the finished detailed analysis was not completed until mid-1970, or nearly two years after the post-survey was completed. The need to demonstrate results conclusively (i.e., the effect of media on acceptance) had become academic because the program administrators had by then begun an education unit which was carrying out a modest mass media effort (based on the interim results and participation in the Kaohsiung action program). By the end of 1967 they were aware that the low cost of about $2,000 for the added mass media input and increased field worker input had produced an increase in loop acceptances by 12 percent in 1967 versus 9 percent island-wide plus a doubling of total acceptances (if the pill is included) over 1966.

TABLE 1: PERCENTAGES OF WIVES REACHED BY FAMILY PLANNING MASS MEDIA APPROACHES

Medium	Percentages receiving information by May 1968 post-survey	Percentages receiving information since November 1966 pre-survey
Radio	34.8	28.7
Mailings	17.4	15.1
Newspapers	17.3	11.2
Magazines	10.4	6.2
Movies	7.7	6.4
TV	2.4	2.0

Source: Cernada, G. and L. Lu, "The Kaohsiung Study," Studies in Family Planning, vol. 3, no. 8, August 1972, p. 200.

TABLE 2: AUDIENCE REACHED BY MASS MEDIA: 1966 AND 1968

Type of information and information source	Preliminary survey November 1966	As percent of all wives	Follow-up survey May 1968	As percent of all wives
Percent of those knowing of any method citing mass media as source	27	(24)	45	(42)
Percent of those knowing of loop citing mass media as source	9	(5)	37	(24)
Percent of those knowing of pill citing mass media as source	23	(13)	25*	(14)
Percent of all wives knowing of family planning through radio	--	25.2	--	34.8
Percent of all wives who received family planning mailings	--	1.5**	--	17.4

Source: Cernada, G. and L. Lu, "The Kaohsiung Study," Studies in Family Planning, vol. 3, no. 8, August 1972, p. 201.

*Although mass media sources did not rise much from 1966 for the pill, 7 percent of all wives had heard about it from the PPH or public health staff compared to less than 1 percent in 1966--an indication of another aspect of the program effort.

**Mailings did not begin until April 1966. No commercial sources carried out mailings.

TABLE 3: DIFFUSION OF INFORMATION BY PERCENTAGE AMONG ALL WIVES

Medium	Learning of family planning news in media from others	Receiving family planning news directly from media	Learning from both sources
Radio	26.2	34.2	21.2
Newspapers	25.0	17.3	12.4
Magazines	11.6	10.4	7.3
Mailings	8.9	17.4	5.3
Movies	6.5	7.7	4.0
TV	2.9	2.4	1.6

Source: Cernada, G. and L. Lu, "The Kaohsiung Study," Studies in Family Planning, vol. 3, no. 8, August 1972, p. 201.

4. Providing pills to all who wanted them in the Kaohsiung Study seems not to have affected loop referrals. The island-wide program had refrained from giving the pill to all wives who wanted it from the fear that it would lower loop acceptances. In late 1970, partly due to the Kaohsiung findings, the pill was made available to all women who wanted it.

Detailed records of acceptors were kept on a monthly basis at each health station in Kaohsiung City. Reports were prepared at headquarters in order to keep the staff informed of progress so that results would be obvious early to those who had to plan well in advance for future programs. Although it was clear by 1968 that the pill was not lowering loop acceptances (the rural study in Tainan also demonstrated this), it was not until two years after the 1968 post-survey that the program took action to remove restrictions and provide pills to all wives who wanted them. Two factors had combined to postpone change. One was the existing program attitudes about the role of the pill as a supplementary method (due to lower continuation than with the IUD); the other was the fear that the then-free supply of pills might come to an end, and funds would not be available to provide supplies to a larger number of women (some of whom would have been switching from commercial brands). The study results were clear, but it took time for these to counter previously existing attitudes.

TABLE 4: AVERAGE MONTHLY LOOP ACCEPTORS: 1965-1969

	1965	1966	Percent increase 1965-1966	1967	Percent increase 1966-1967	1968	Percent increase 1967-1968	1969	Percent increase 1968-1969
Taiwan Area	8,261	9,270	+12.2	10,045	+ 8.4	10,306	+2.6	10,863	+ 5.4
Kaohsiung City	354	374	+ 5.7	434	+16.0	468	+7.8	570	+21.8
Tainan County	536	729	+36.0	742	+ 1.8	729	-1.8	715	- 1.9

Source: Cernada, G. and L. Lu, "The Kaohsiung Study," Studies in Family Planning, vol. 3, no. 8, August 1972, p. 203.

5. Administrators became more aware of the need to have the evaluation staff routinely gather information on mass media and public information channels. Prior to the Kaohsiung Survey, the KAP surveys had largely ignored their potential use in gaining information on the composition of the mass media audience. This lack of action partially reflected the heavy emphasis on fertility rather than the knowledge or attitude components in the surveys. A series of questions based on and expanded from the Kaohsiung surveys was added to subsequent KAP studies. Greater attention began to be paid to evaluation of the mass communication

component of the program, particularly use of media. Analysis of media findings became routine with brief interim reports prepared for circulation to key concerned staff.

6. The results of the study helped get funding to broaden mass media use, first from the Population Council and then from the government. This funding accounted for about 10 percent of the program budget in 1972.

COMMENTS

In summary, the Kaohsiung Study illustrates the value of:

1. Action-oriented, evaluative communication research carried out within one agency so that action can be taken based upon results. (Imagine how much less likely it would have been for results to have been applied on such a large scale had an outside agency carried out this project!)

2. Quick feedback of results into the program, particularly geared to administrators in their own frames of references (see the figures and tables).

3. Integration of mass media audience assessment into future surveys in order to continue collecting data which permit comparison. Without this integration into the national KAP surveys, the later national shift in audience attention from radio to TV might have been less noticeable or not observed so soon.

4. The cooperative effort of program and evaluation staff: program action staff implementing the project based upon their years of field experience and the evaluation staff assisting in selecting a random sample for survey, and helping draft pre- and post-program questionnaires.

NOTES

Cernada, G. and L. Lu, "The Kaohsiung Study," Studies in Family Planning, vol. 3, no. 8, August 1972, pp. 198-203.

Cernada, G. and L. Lu, "The Kaohsiung Study." Interim Report T-123, SR-24, 29 July 1970, Taiwan Provincial Committee on Family Planning (mimeo, 30 pp.).

Cernada, G. and L. Lu, "Kaohsiung Audience Survey," Taiwan Family Planning Reader (ed. Cernada), Chinese Center for International Training in Family Planning, Taiwan, 1970, pp. 99-108.

Cernada, G. "Family Planning Communications in Taiwan, Republic of China." Asia Population Studies Series, no. 3, United Nations ECAFE (November 1968), pp. 86-98.

CASE NUMBER THREE:
THE EDUCATIONAL SAVINGS PLAN

This study illustrates (1) how previous research results from other studies were utilized in planning and guiding a non-fertility incentive program in Taiwan; (2) how foreign aid, otherwise unobtainable, was made possible because the plan was innovative and had regional implications; and (3) some of the present problems we have about how to influence key leaders to take action based on this program.

BACKGROUND AND NEED FOR ACTION

By 1969, the crude birth rate in Taiwan had declined from a 1951 peak of 50 to about 28 per thousand. Although government contraceptive services by 1973 had reached almost half the eligible couples in Taiwan, and recruitment of new family planning acceptors inside and outside the government program has continued to increase each year, program administrators have been concerned that the birth rate will soon cease to fall and may even rise. This concern is caused primarily by KAP findings and various other survey data and analysis of fertility data which show that: (1) an unusually large number of young people are entering the reproductive years; (2) the fertility of young women continues to be very high; (3) there has been little change in the number of children wanted by each couple; (4) a strong son preference continues to prevail, which influences some couples to produce a larger number of children than they want, and (5) the fertility of women aged 30 and above who had already had enough children is very low. These findings imply that the women who had had their ideal number of children are quite effective in controlling their fertility and that further fertility decline depends largely on a change in ideal family size. These factors, which came under consideration in 1968 after the government support for family planning became official, led program administrators to think about how to get couples to reduce their ideal family size.

In order to develop a practical program designed to motivate couples to have smaller families than they had previously planned or expected, the research group was requested to find out why Taiwanese families wish to have so many children and to try to develop incentives as compensation. At this time it would have been difficult if not impossible to get local funding for such a project; further, Taiwan had "graduated" from American aid in 1965 and the door to direct funding from that source was closed. However, since this important problem had regional implications, Taiwan was able to obtain a grant from the Population Council (using AID funds) in 1970 for several innovative projects which might help solve this problem.

The educational savings scheme which finally evolved was based heavily on previous research. In Taiwan, as in other societies, it has been considered important to have many children in order to provide for old-age support. In some societies, where the death rate is high, the number of children wanted includes enough to make up for the expected deaths. In Taiwan, however, excellent medical care and public health services have reduced the annual death rate to less than five per thousand. These is also an effective, island-wide contraceptive delivery system. Most of the couples in Taiwan should be confident (though fears persist that they will be the exception) that their children will live, and they have achieved their expected fertility with relative ease. As of 1970, the average woman wanted 3.9 children; total fertility averaged 4.0. Fully 44 percent of married women aged 20-44 were practicing contraception in 1970.

A 1969 survey of men found that 62 percent expected to live with their children in their old age and 57 percent expected money from time to time regardless of the children's economic condition. These findings are consistent with traditional Chinese values. They point to the extended family pattern with attendant expectation for old-age support as the rationale for wanting and having large families, with more sons. On the average, couples want 2.3 sons and 1.6 daughters.

These findings lead to the question of how Chinese couples expect their children to succeed financially. Surveys indicate that parents perceive the path to financial success to be through education. Traditionally, Chinese families have placed strong emphasis on higher education and commercial or professional employment. Although only 16 percent of men have attended high school or college, 67 percent expect one or more of their children to finish college. And although only 29 percent have any idea of the cost of a college education, 76 percent say that this will be a "heavy financial burden." When asked whether saving money is important, 78 percent say that it is, and, among these, 40 percent spontaneously cite the cost of education as the most important reason for saving.

These conditions became the base for developing the educational incentive savings program in 1971. The program capitalized on the strong desire to save by establishing for the couple who limit family size a formal bank account earmarked for education for children. The program deposits money for the couple who succeeded in limiting the number of children to two or three. The account, which will help cover high school and college tuition and fees, will provide schooling for two children from junior high through senior high at present cost. Promotional materials stress that, if achieving old-age security depends on having successful children, then a child's success in this modern world depends on his or her education.

THE PROGRAM

The program was planned by the program director and a funding organization advisor in consultation with both local administrators and experts from foreign population organizations.

A rural township (Hua-tan) in Changhua County, which is located in the middle part of the west coast of the island, was selected for the pilot project. The feasibility of a nationwide program will be determined by the progress of this pilot project.

In its final form the pilot project offers to couples with zero, one, or two children an annual deposit in a savings account for each year that they do not exceed two living children. These deposits are recorded on an account card kept by each enrolled woman. If a couple has a third child, the value of the savings account is immediately reduced by 50 percent. If they have a fourth child, it is cancelled and all funds are returned to the bank.

The account is held at the maximum permissible long-term interest rate (now 9.5 percent), and all accumulated interest is added to the account. The enrollment deposit is large enough to be attractive to most couples, and annual deposits increase as the program progresses. The account can be closed by a one-time withdrawal from 10 to 14 full years after enrollment. At this time a book of cashier's checks will be issued payable for educational expenses in public high schools and colleges, and equal to the total amount of deposits plus interest. After ten full years the account will be worth US$267.50. If the couple waits for four additional years, the account increases in value by $117.10, to $384.60. The schedule of deposits and the value of the account at withdrawal are presented in Table 1.

TABLE 1: EDUCATIONAL SAVINGS PLAN DEPOSIT AND WITHDRAWAL SCHEDULES AT 9.5 PERCENT INTEREST COMPOUNDED ANNUALLY (U.S. DOLLARS)

A. Regular Plan

Year	Annual Deposits 0-2 Children	Annual Deposits 3 Children
0	$ 25.00	$ 12.50
1	5.00	2.50
2	5.00	2.50
3	10.00	5.00
4	10.00	5.00
5	15.00	7.50
6	15.00	7.50
7	20.00	10.00
8	20.00	10.00
9	25.00	12.50
10	25.00	12.50
Total	$175.00	$ 87.50

B. Special Plan

Year	Annual Deposits 3 Children
0	$ 35.00
1	7.50
2	7.50
3	10.00
4	10.00
5	12.50
Total	$ 82.50

Year	Value of Account at Withdrawal 3 Children
6	$133.75
7	146.48
8	160.40
9	175.62
10	192.30

TABLE 1--Continued

Year	Value of Account at Withdrawal: 0-2 Children	3 Children
10	$267.50	$133.75
11	292.96	146.48
12	320.80	160.40
13	351.24	175.62
14	384.60	192.30

Source: Finnigan, O. D. and T. H. Sun, "Planning, Starting, and Operating an Educational Incentive Project," Studies in Family Planning, vol. 3, no. 1, January 1972, p. 2.

For the first year of the program's operation a special plan is being offered to couples who already have three children. Under this plan deposits are increased, and the savings account matures from six to ten years after deposits begin, payable at the reduced rate used for all other three-child families. This plan aims at attracting quickly those couples who are likely to have a fourth child in the near future.

Baseline Survey

The first step in this program was to conduct a thorough baseline survey of eligible women in Hua-tan. This township has a population of about 35,000, with 1,477 registered married women less than 30 years old with three or fewer children. These women made up the pool of eligibles. Only 1,103 of these women were still living in Hua-tan at the time of the survey. Out of these, 1,051 were interviewed in mid-1971, but 90 either failed to complete the interview or were found to be pregnant for the fourth time. Thus, the final population of women to be followed in this study is 961. This survey confirmed prior island-wide results reported earlier. The mean desired number of children was 3.5, with a decided preference for sons. Although only 26 percent of husbands and 9 percent of wives had attended junior high school or above, almost 75 percent expected sons and over 50 percent expected daughters to finish college. Sixty-five percent expected to live with their children for the rest of their lives, and 64 percent felt that their children should give them money regardless of the child's economic condition. Although 95 percent felt that it was necessary to save money and over half of these felt that the primary purpose of saving was for education, only 9 percent had saved regularly in recent years and 64 percent had never saved anything (see Table 2 and Figure 1). These survey results help support the rationale of the program.

TABLE 2: SUMMARY OF PRELIMINARY SURVEY FINDINGS, HUA-TAN TOWNSHIP, AMONG MARRIED WOMEN UNDER AGE 30 WITH THREE OR FEWER CHILDREN (N = 961) (FIGURES IN PERCENTS)

A. Completed Education

	Actual		Expected for Children	
	Wife	Husband	Son (s)	Daughter (s)
Primary or below	91	74	6	16
Junior or Senior High	8	23	23	30
College or other	1	3	71	54
	100	100	100	100

B. Savings

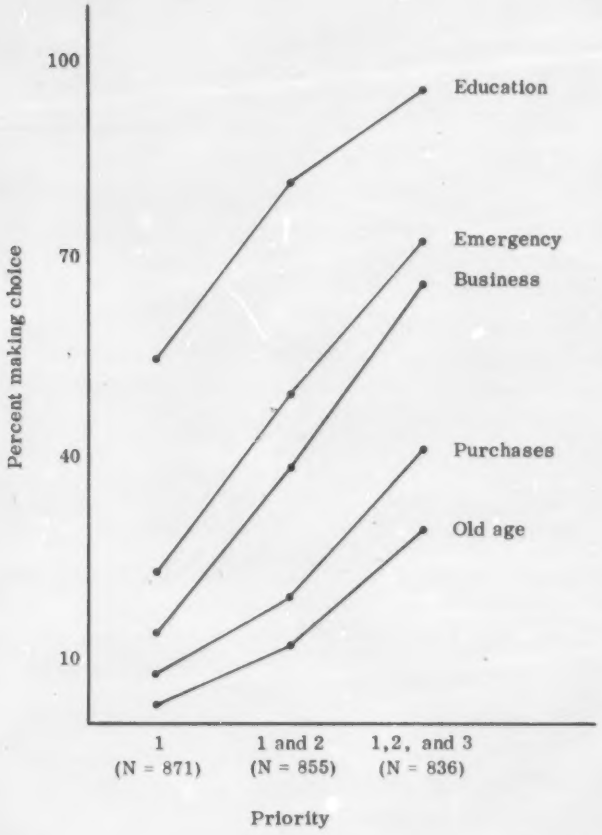
Beliefs about		Practice in recent years	
Very necessary to save	79	Save regularly	9
Necessary to save	16	Save occasionally	27
Not necessary to save	5	Never save	64
	100		100

C. Expectations of Children

Expect to live with them		Expect money from them	
For rest of life	65	In all cases	64
When old	4	If live together	2
Depends on situation	23	Depends on situation	21
No	8	No	13
	100		100

Source: Finnigan, O. D. and T. H. Sun, "Planning, Starting, and Operating an Educational Incentive Project," Studies in Family Planning, vol. 3, no. 1, January 1972, p. 3.

FIGURE 1: RANKING OF FIVE PRINCIPAL OBJECTIVES FOR SAVING, CUMULATIVE, EXCLUDING "NO RESPONSE" AND "OTHER"



Source: Finnigan, O. D. and T. H. Sun, "Planning, Starting, and Operating an Educational Incentive Project," Studies in Family Planning, vol. 3, no. 1, January 1972, p. 3

First Enrollment

In 1971, out of 1,089 eligible couples, 728, or 67 percent, joined the program. Among those who joined, 541 had two or fewer children (regular plan); 187 had three children (three-child plan). As could be expected, enrollment in this program was highest among women who, in a pre-survey, indicated that they wanted no more children (79 percent), were already using contraception (82 percent),

or already had all the sons that they wanted (75 percent). Even so, among women who wanted two more sons, 55 percent enrolled; among those who wanted three more children, 59 percent enrolled; among those with no sons, 55 percent enrolled. In general, social and economic variables such as income, education, occupation, or aspirations for children were not very significant predictors of enrollment because of the activity of village administrators in recruiting eligible women for enrollment.

Mini-Surveys

A series of mini-surveys was conducted after the first enrollment (1) to see if the enrollment had any effect by increased contraceptive practice or in stated intention of further contraceptive practice (mini-survey no. 1); (2) to find out why some women failed to enroll in the program (mini-survey no. 2); and (3) to interview women who became pregnant after enrollment (no. 3). The survey results were used in introducing supplemental actions to keep the enrollees in the program. For example: (1) a name list of women who were not using contraception was given to the local family planning worker for follow-up; (2) free sterilization was offered to those who wished to have it; and (3) another chance to enroll in the program was given in 1972 to women who had failed to enroll in 1971. (More than half of them indicated that they might join the program in the future if given another chance.)

Re-Enrollment

The re-enrollment took place in September 1972, one year after the first enrollment. For the first round re-registration, 70 percent of previous registrants re-enrolled. A two-week clean-up campaign by village clerks and a few late registrations brought the figure on re-enrollment up to 96 percent, or 99 percent when out-migrations and divorced couples were discounted. Forty-eight cases dropped out.

Only 57 of the 361 eligible couples who did not enroll in 1971 enrolled in 1972. This was partly due to the limitation of funds for support of this program; therefore recruitment of new enrollees was not pressed, and no bonuses or prizes were given for new enrollment. An interview of the eight 1971 enrollees who were still eligible but had not re-enrolled in 1972 brought three of them to re-enroll in the three-child plan.

In 1973 the re-enrollment was 94 percent, or 690 of the 737 eligible couples; 40 couples had a fourth child and dropped out, and 7 cases either moved out or were unwilling to continue.

EVALUATION

It is too soon to measure the effect of the program by whether the pilot project is acceptable and feasible. Another township nearby (Ta-Tsun) was selected as a control. For evaluation of the short-term effect of the program, the birth records for eligible women both in the study and control townships were obtained. The analysis of the individual fertility data by cohort and parity is in

progress. Also, in order to evaluate the general success of the program in terms of changes in KAP of family planning, a survey will be conducted in early 1974.

COMMENTS

At present (1974) this study is still continuing, and a number of questions remain to be answered. Will the experiment succeed? If it fails, will we be able to pinpoint why? If it does not succeed, where do we go from here? How can others be persuaded to expand the project?

In terms of this project's potential for further utilization there are both weak and strong points:

1. Continuing evaluation has been meticulous and frequent; and a good working relationship between evaluation and program staff has developed.

2. The idea for an incentives approach came about through a desire to be innovative enough in a series of projects so that the projects would have regional implications. A plan to test alternate forms of incentives was submitted to a donor agency in 1969 and approved. Had this potential monetary kind of encouragement for innovative research not been there (and had Taiwan not had a long history of use of acceptor and worker incentives) it would have been difficult to convince the policymakers to submit this early incentive testing proposal, which represented a dramatic advance by moving into the area of testing of alternate non-fertility incentives. With the funding available for a test of alternative non-fertility incentives, the atmosphere was conducive to beginning the educational savings plan, which was carried out instead of the earlier plan.

3. Although the project builds on research indicating the high value parents place on education of their children, more attention needs to be given to possible alternate incentive schemes should this not prove successful--even the testing of alternate schemes on a competitive basis. This alternate testing was originally considered but bypassed to carry out the educational savings approach and in effect speed up the process toward establishing a "proven success" in non-fertility incentives. This faster start helped more other countries to become aware that a strong "beyond family planning" project was continuing in Asia. The "information diffusion" element was judged more important than additional input in selection of the kind of incentive to be offered. Also, the limited funding held back testing of more than one alternative. At present, only one other incentive scheme has begun, the Taichung Spacing Incentive Project, which, starting in 1974, provided free delivery of a second child or cash if there is a minimum of 40 months between births.[1]

4. We need to keep closely attuned to changes and to be flexible enough to make adjustments--e.g., to increase the level of incentive if needed and possible, to provide more to those participants with only female offspring (who may thus desire males more), to build in "early reinforcement" incentives. A major question is whether couples can plan and be motivated by an incentive not paid to

---

[1]Cernada, G. and T. H. Sun, "Birth Spacing Incentive Plan." Proposal prepared for the International Committee for Applied Research on Population meeting, Taiwan, December 1972.

them for many years in the future. (All these considerations rest on the assumption that the basic research design would not be affected.)

5. In terms of the project's potential for expansion locally, should it prove successful, there also are weak and strong points. Initially, in 1970, the project was set up through a voluntary agency without official government support and entirely with foreign funding. Later, in 1972, however, in an attempt to involve government officials at higher levels, the Taiwan Provincial Commissioners of Health and of Social Welfare were asked to co-author the first year's report. This move helped strengthen the government "commitment." Yet there is still not sufficient linkage between the project or its results and those higher-level government officials who could implement broader-scale application. A definite plan to consider some wider-scale expansion also needs drawing up--with special emphasis on government involvement. There is a need to review the early assumption that there would be a leap forward from this study to national implementation. Possibly some intermediate steps, such as expansion to larger areas (geographical, or industrial, or vocational, for example) ought to be the strategy.

A detailed economic analysis is needed to show the savings of the program in order to dispel the idea that such a plan would be too expensive. The plan should stress the transfer payment nature of such a large-scale incentive program in which no funds actually leave the government system (funds going directly from finance departments to a postal savings account of a couple and then to the education department).

NOTES

Cernada, G. and T. H. Sun, "Birth Spacing Incentive Plan." Proposal prepared for the International Committee for Applied Research on Population meeting, Taiwan, December 1972.

Finnigan, O. D. and T. H. Sun, "Planning, Starting, and Operating an Educational Incentive Project," Studies in Family Planning, vol. 3, no. 1, January 1972, pp. 1-7.*

Wang, C. M. and S. Y. Chen, "Evaluation of the First Year of the Educational Savings Program in Taiwan," Studies in Family Planning, vol. 4, no. 7, July 1973, pp. 157-161.*

*The description of the program draws heavily upon these two articles, particularly the earlier, Finnigan and Sun (1972).

CASE NUMBER FOUR:
HOW TO PRICE ORAL CONTRACEPTIVES

The particular study we deal with here (the Three Township Pill Study) is an example of one whose findings did not find their way into the program as intended. It serves to illustrate at least two of the many reasons which we have identified as hindering application of research results: (1) mainly lack of available budgets to implement findings, but (2) partially, time lag (by the time findings were available and translated for program use, the program was ahead of the study). A description follows.

NEED FOR THE RESEARCH

Oral contraceptives did not become available on an island-wide scale until January 1967 (and then only to those who had discontinued IUDs or had contra-indications to IUD usage). In preparation for wider-scale use, in August 1966 a study began to determine factors such as whether women would accept the pill, at what price the pill would be more acceptable, whether women would continue long-time use, and what side effects or educational problems there might be.

Three townships were selected near the program headquarters in Taichung City, where the pills were to be offered for NT$10 (US 25 cents)[1], NT$5 (US 12 1/2 cents), and free. Prior to this experiment, only a small-scale test offered the pills by mail at NT$20 per cycle. (The commercial drugstore rate was about NT$40-50 per cycle.) The townships were selected on the basis of matching for various criteria. In order to simulate what would be the likely situation in a program in which a variety of contraceptive methods would be offered, couples were offered (by 13 village health education nurses[2]) a choice of the pill, the Lippes loop, foam tablets, condoms, or sterilization. All methods were offered at reduced cost: NT$5 for a box of foam tablets, NT$5 for a dozen condoms, NT$300 (US$7.50) for tubal ligation, NT$200 (US$5) for vasectomy, pills at NT$10, $5, and free (depending on the townships).[3]

---

[1]NT$1 = US 2 1/2 cents (prior to 1973's slight revaluation).

[2]Mobile field workers who moved from village to village providing health education, sanitation, MCH, and family planning.

[3]Exchange rate at time was NT$40 = US$1.

RESULTS

The study was concluded on November 15, 1967 (after 15 months in 2 townships and 14 months in the third). The results, as shown in the table below, seemed to indicate (1) that there was not much difference between NT$5 and free but that in the NT$10 area, only about half as many new cases were recruited for the oral contraceptives; (2) that a fairly large percentage of acceptors could be recruited in a relatively short time (averaging 8.4 percent of married women 20-24 in 14-15 months); (3) that continuation rates were low, as indicated by the usage index developed.

TABLE 1: THREE TOWNSHIP PILL STUDY (AUGUST 66-NOVEMBER 67): RESULTS

(1) Township (cost)	(2) No. of wives 20-44	(3) Total no. pill acceptors	(4) Total no. cycles distributed	(5) Rate of acceptance percent (3)/(2)	(6) Cumul. month observation	(7) *Usage index (4)/(6)
Ta-an (NT$10)	2,558	146	227	5.7%	1,828	12.4%
Hsien-Hsi (NT$5)	1,726	177	345	10.3%	1,212	28.5%
Ta-tu (Free)	3,332	316	400	9.5%	1,684	23.8%
Total	7,616	639	972	8.4%	4,724	20.6%

*An indicator used by Taiwan Population Studies Center to show the "density" of use of pill cases.

During the period of the study, field workers were interviewed by Studies Center staff on many occasions. In addition, a follow-up survey of 128 acceptors was carried out in September 1967 to find out who stopped pill use and why. A survey of 504 women who did not accept any methods also was carried out, in order to find out if they had known about the pills and why they had not accepted them.

The interesting conclusion is that, although the study results indicated that NT$10 produced far fewer acceptors, the island-wide program which began in late January 1967 started providing the pill for a contribution of NT$10 per cycle. The reason why the study results (indicating that NT$5 or free would have been preferable) were not put into operation was largely that program administrators had a limited supply of pills (donated by the Population Council from Searle on a one-time basis) and they decided that they needed funds quickly so that they could start a revolving fund to purchase more pill supplies. This decisionmaking was by the

three key Committee members who were the policymakers at that time (before an official policy supporting the family planning program existed).

The decision on the price was not easy for administrators. Estimates of cost ranged as high as 15 to 20 US cents (NT$6-8) per cycle for a small order. The NT$10 (US 25 cents) figure was chosen to provide the minimum amount needed for a revolving fund, to purchase a continued supply for an estimated 20,000 users when the free 250,000 cycles ran out. The price of NT$20 (US 50 cents) in the mailing study had seemed too high; only 42 percent had continued use in Taichung City after 12 months.[4]

It was not until the end of 1967 that a price of NT$4-5 per cycle (US 10.8 cents) was negotiated (on the basis of the Swedish International Development Agency wholesale purchase prices) and 200,000 cycles purchased. By late 1968 another international donor had agreed to provide pill supplies free, and in May of 1970 the "service fee" for pills dropped from NT$10 to NT$1. At that time, monthly numbers of new pill acceptors more than doubled from the 2,500 level to nearly 6,000.

In retrospect, it is doubtful that decisionmakers could have been convinced to set the pill prices at lower than NT$10, considering the financial problem involved. If they had been convinced, still the study was too late to affect the action program decision, even though preliminary findings indicated that NT$10 produced fewer acceptors. Possibly the study might have been started earlier than August 1966; but there was no indication until early 1966 that the pills might be available at a wholesale price the program could afford. Possibly also the study might have shown results more clearly early had there been more emphasis on the pill and less on the cafeteria of other methods offered (IUD, foam tablets, male and female sterilization). In any case it seems that price made a difference, judging by the spurt in monthly acceptances once the price was reduced--although perhaps the fixing of the higher price followed by a "bargain" lower price helped also in this respect.

NOTES

Keeny, S. M., "Korea and Taiwan: The Score for 1966," Studies in Family Planning, No. 19, May 1967.

Keeny, S. M., G. Cernada, and J. Ross, "Korea and Taiwan: The Record for 1967," Studies in Family Planning, No. 29, April 1968.

Sun, T. H. and G. Cernada, "Commercial Lead: How to Price Oral Contraceptives." Memo to International Committee for Applied Research on Population, 1973.

Taiwan Population Studies Center Monthly Reports, August and December 1966 and September-October 1967.

---

[4] Later follow-up studies, however, showed that this rate was higher than the program rate turned out to be.

CASE NUMBER FIVE:
FREE OFFERS FOR A LIMITED TIME ONLY

This case study was chosen to illustrate: (1) the close attention the Taiwan evaluation unit has paid to feedback from both the consumers of service and the home-visiting family planning field worker; and (2) the flexibility of the research projects conducted, particularly their adaptability to given field problems.

NEED FOR THE PROJECT

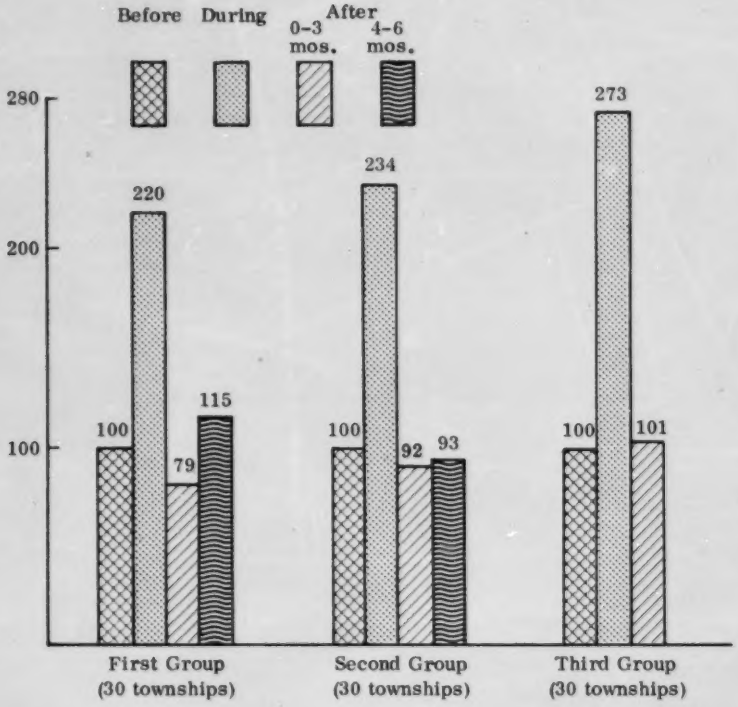
An evaluation unit review of the IUD acceptor coupons in 1964 revealed that many more women had accepted an IUD coupon entitling them to IUD insertion at half price than had actually come to the clinics for IUD insertion. To find out if a free insertion with a specific time limit would bring in more acceptors, trial projects were conducted in two rural townships with low acceptance rates. Field workers there felt that a limited-time offer might be a stimulus to accept "now rather than later." Three months were believed to be long enough for the home visiting field worker to inform enough people about it, but short enough for action to be necessary soon. Earlier trial studies of six months' duration had not produced significant results. With the free offer, 20 percent of the wives responded within three months and two-thirds of these took the IUD.

RESULTS

Program administrators wondered whether the success could be expanded to cover additional townships, and further trials continued. A free offer project was carried out in thirty townships with low acceptance rates from September to November 1965. Results showed a doubling of acceptors, and eventually some 180 townships (6 groups of 30 each) received the treatment with equally good results.

The chart on the next page clearly illustrates the effect of having free offers of IUD insertions for a period of three months in 30 selected townships. A look at the index for the three-month free offer period shows that there were twice or more as many insertions than during the three-month period before. The pilot free offer studies tried to demonstrate the effect of using such an offer to program administrators--especially the holders of the purse strings. Administrators sometimes noted that a drop usually occurred in the several months following the three-months free offer. Thereafter, data were included to show that although the acceptance rate lowered immediately following the free offer, it soon picked up again.

FIGURE 1: FREE INSERTIONS FOR A LIMITED TIME ONLY



Source: Taiwan Population Studies Center, Taiwan's Family Planning in Charts, 2nd edition, Taichung, 1967, p. 39.

Eventually, the free offer program was expanded to include a mailing offer of a free IUD insertion to all recent postpartum women and also was used on an island-wide basis during the last two weeks of 1966 and last 20 days of 1967 to help meet annual targets.

COMMENTS

Some important implications for research utilization may be drawn from this study.

1. The impetus for this program came largely through the field workers, who recognized that people loved a bargain. Field workers communicated their ideas on the potential value of this approach through the system of monthly meetings of field staff and quarterly meetings of field supervisors with headquarters

evaluation and program staff. Local resident advisors also tried to serve as "linkers," reinforcing the merits of this field worker suggestion to the program and evaluation staff and encouraging an action trial.

2. The suggestion itself fitted into the strong orientation toward use of incentives which was developing in the program and which later blossomed into all sorts of field worker, acceptor, and (on a pilot basis) even non-fertility incentives both in Taiwan and in other Asian countries.

3. The excellent feedback system of service statistics enabled both workers and headquarters to see the results rapidly--so that the program continued to expand to different areas and in different variations without any gap in reporting of results.

4. The pilot project gave the field worker something to dispense, the power to provide a bargain; enthused, she made as many as twice the usual number of home visits a month during the free-offer periods.

5. The program was flexible, permitting action on field suggestions, and the free offers could be shifted according to demand, or moved seasonally, for example.

6. From a funding viewpont, the study showed a way to pick up acceptances and use funds that might otherwise have been lost at the end of a budgetary year.

7. The evolvement of the project proceeded from a two-township approach to a 30-township one on a rotating basis to various areas, to a variety of free approaches (postpartum, etc.)--with the evaluation and program staff combining to get the fullest utilization potential from the results and to disseminate these to field workers to encourage their participation and enthusiasm.

NOTES

Cernada, G., "Family Planning Communications in Taiwan," Asian Population Studies Series, no. 3, ECAFE, 1968, pp. 87-88.

Committee on Family Planning, Taiwan Population Studies Summaries, Taichung, 1973, pp. 20-21, 170-171.

Freedman, R. and J. Y. Takeshita, Family Planning in Taiwan, Princeton, 1969, pp. 320-321.

Gillespie, R., L. P. Chow, and H. C. Chen, "Operational Research," Chapter 11, Taiwan Family Planning Reader (ed. Cernada), The Chinese Center for International Training in Family Planning, 1970, pp. 187-191.

Gillespie, R. and G. Cernada, Family Planning in Taiwan: 1965-1966, Taichung, 1965, pp. 105-108.

Taiwan Population Studies Center, Taiwan's Family Planning in Charts, 2nd edition, Taichung, 1967, p. 39.

THE TAIWAN EXPERIENCE IN USING RESEARCH: SUMMARY AND ANALYSIS

Research in the Taiwan program grew over the past decade from an early concentration on improving the effectiveness (social and cost) of contraceptive services to a later focus on expanding communication approaches--from only face-to-face home visiting, to the use of mass media, to ways of reaching the increasing numbers of younger women whose fertility rates were not dropping.

Research and program results showed that the needed population changes went far beyond family planning program activities, and efforts expanded to include trying to identify the economic, psychological, and societal values placed upon children; the obstacles to parents' understanding of the advantages of a two-child family; the nature of son preference; educational approaches to newlywed and newly engaged couples; and use of incentives. Perhaps the most significant outcome of this continuing research has been our growing awareness of the complexity of the issues we once tried to deal with so simplistically.

SUMMARY OF FACTORS RELATED TO RESEARCH USE

Favorable Factors

Factors we think were of importance in helping Taiwan utilize its research in its population and family planning program, and particularly in the communication components, are:

1. Adherence to the basic assumption that research is intended to improve the continuing program and to aid in planning future operations which will benefit the consumer.
2. Heavy emphasis on translating program needs into researchable projects, interpreting research findings into simple step-by-step action program changes, and using help from resident donor agency advisors in doing so.
3. Flexibility in research funding and research operations so that early stages in exploratory studies can be refocused to meet program needs.
4. The accumulation of continually evaluated experience over more than a decade and its cumulative effect on our growth of awareness of the complexity of this area of planned social change.
5. An unusually rich flow of vital data and program information, fed back and forth between the program headquarters and the field to help pinpoint research needs. The relatively small size of the island, the already existing

well-developed communications network and the exceptionally accurate vital data available have facilitated progress.

6. Centralized administrative arrangements. Both the research and evaluation and the action program implementation for the most part have been the responsibility of one agency under one directorship and under one roof. This organization has been flexible enough to change to meet consumer needs and program goals.

7. Training research staff to be sensitive not only to research methodology but to the need for practical application so that their value system is more in accord with that of program staff. (More still needs to be done.)

8. Theoretical and methodological approaches which fitted the action program problem, rather than the opposite. This has meant an awareness that most approaches and research models have far too many limitations to be applied consistently in the field.

9. Designing field experiments and pilot projects to demonstrate the means of breaking out of the bounds of current program practice. Field observation, service statistics, and results of large social surveys have helped pinpoint some of these demonstration needs.

10. Encouraging research and program staff to solve problems as a team and to be proud of their achievement--with incentives added, such as providing publication vehicles and salary supplements.

11. Recognition of mistakes and learning from them as well as from successes. Evaluators have continued to objectively evaluate their own research and to invite and listen to outside criticism.

Unfavorable Factors

Over the past decade, a number of factors have been identified which seem to have hindered research use in Taiwan's program. These include, but are not limited to, the following:

1. Changes called for by findings were interpreted to be in conflict with government regulations.

2. There were no available budgets to implement findings.

3. Time lag: by the time findings were available and translated for program use, the program was ahead of the study.

4. The research project began without sufficient involvement of the staff who would have to implement the findings.

5. Armchair research--not enough relationship to the situation in the field it was designed to solve.

6. The study methodology was questionable.

7. The study objectives were inadequately defined.

8. The findings were not conclusive enough to justify program change.

9. The island-wide social survey approach (stressed during the last half of the 1960's) should have been preceded by more exploratory work or followed up more in depth to pinpoint certain trends among groups.

10. The research was urged upon the unit by outside agencies and interest in results was mostly theirs.

11. The needed change might have thrown another aspect of the program out of balance.

12. Findings might have caused someone to lose face.

13. The manner in which the findings were presented to the program staff violated protocol or was threatening.

14. The research project represented only the researcher's interest.

AN ANALYSIS AND DETAILS OF FAVORABLE FACTORS

Determination of Research Needs

Partially because the evaluation and research function was integrated early into the overall action program, "research" needs were defined by potential applicability. Most of the more than one hundred formal studies carried out tried to answer questions posed by program problems. In addition, evaluation was built into continuing program activities--e.g., systematic collection of service statistics, measures of program input and output, supervisory observations in the field, and special projects carried out by the operational divisions of the Committee on Family Planning.

Some strengths include the following:

1. A series of crude birth rate and contraceptive acceptor goals had to be reached. Whenever program obstacles were encountered, the Research and Evaluation Unit was asked to help find out how to overcome these. This meant that research priorities focused largely on problems related to consumers of service, not just the interests of research (or action program) personnel.

2. Research project priority was based on potential for program implementation and on researchability. The choice for the most part rested with a director sensitive to both research and program activities. Resident advisors also played a vital role in helping to identify consumer needs and in translating program needs into applied research study designs.

3. There was a continuing two-way flow of communication between the field and headquarters: service statistics, input-output measures, regular headquarters meetings, regular field staff meetings, and meetings of field with headquarters staff. These have helped determine and better clarify research needs.

4. The continued difficulties of getting adequate funding (due to a lack of Government policy through 1968) meant greater attention to cost-effectiveness studies of all sorts: in mailings, in home visits vs. group meetings, and so on.

5. The multiple agencies which served as sources of local funding demanded early that the research unit show results by evaluating the effectiveness of the program or else lose its funding. This was a constant threat during the early years of the operation.

6. Most research has been applied but not all has been short-term. There was considerable emphasis on intermediate and long-term work (particularly experimental approaches--the educational savings plan, maximum contraceptive acceptance plan, spacing incentive approach) when it became apparent from research findings that goals could not be realized without influencing social change more dramatically than by offering only contraceptive-oriented service and education.

Organizational Arrangements

The Research Unit is located in the Committee on Family Planning of the Taiwan Provincial Health Department, which has total responsibility for promoting the family planning program in Taiwan Province. It evolved in 1969 from its predecessor unit, the former Taiwan Population Studies Center, which was started in 1961. Its strength in terms of research utilization lies in the following:

1. The organization evolved over more than a decade. The divisions of labor, staffing, and functions were adjusted continually to meet the program's evaluation needs. There has been one major organizational overhaul.

2. The family planning program agency contains both the evaluating and the implementing units at the central level. They are in the same building. This eliminates many jurisdictional squabbles and minimizes communication difficulties.

3. Excellent sample social survey facilities have been developed, including unusually good sampling framework (developed in close consultation with Michigan), strong interviewing team and field interviewing supervision, good coding personnel, efficient data processing unit and experienced, and capable research staff.

4. The Committee's director has had extensive experience and training in research and evaluation and works closely with these units.

5. Close relationship with other organizations such as the Joint Commission on Rural Reconstruction and the Council for International Economic Cooperation and Development (locally), and the Population Council and the University of Michigan Population Studies Center (in the United States) have increased the opportunity for outside inputs of ideas for new directions and critical reactions to projects being implemented.

6. The autonomy of the evaluation group is maintained by having separate sections which are able to be reasonably objective. These form three of the six units at headquarters and a third of the professional staff. One emphasizes intermediate and longer-term studies; the second focuses on analysis of input-output data; the third does the processing. Since the first two must keep close track of field programs, there is considerable feedback into and from the action units--education, supervision, and planning.

7. The field network stretches through the island. The field supervisory teams are able to locate problem areas as they arise, and also to transfer the findings for implementation.

Staffing

There are 16 professional evaluation and research staff, a trained corps of 56 part-time (piecework) interviewers scattered island-wide, and six experienced survey interview supervisors. Supporting them are ten coders and three clerical staff. Educational qualifications and experience are varied: one Ph.D., four M.A.'s, four B.A.'s; seven staff have more than eight years experience each. Both research and program staff must work together closely.

The following are strengths:

1. Program and research staff meetings are held weekly to review activities. Each division has a quarterly work plan (specifying weekly activities) distributed to all others. This helps develop a common value system in respect to sharing responsibility for a good overall job.

2. There is considerable teamwork and a problem-solving orientation developed on the strength of having overcome many obstacles through applied research efforts.

3. An education evaluation committee reviews communication needs. Both education and research staff discuss problems and how to solve them. The limitations of both program and evaluation units become clearer so that realistic demands are made. A single problem is approached by several staff from different viewpoints. Process as well as task receives emphasis so that staff can develop.

4. Reports on program progress and interim reports on research are circulated regularly so that each staff person is able to get an idea of what is going on in the program as a whole.

5. Senior research staff have received graduate training abroad, usually only after several years of working experience. By the time they go abroad they have a feeling of how research helps the program and are able to view coursework in terms of on-the-job applicability. Their overseas training emphasizes quantitative measurement but is basically in social sciences: major in sociology (Michigan), demography (University of Pennsylvania), for example. Senior program staff who work with them are trained abroad in health education and communication, also only after on-the-job experience.

6. Working assignments are arranged so that each person has responsibility for working on at least one study on his own. Studies are matched with staff interests, trainin, and experience, with individual growth in mind as well.

7. Co-authorship of papers is encouraged: in a mimeographed "Interim Reports" series, a "Working Paper" series (in conjunction with the University of Michigan Population Studies Center) and in local and foreign journals, depending on kind of paper and quality. These papers provide a sense of satisfaction and pride.

8. Fellowship support for graduate training abroad also is an incentive for recruiting staff as well as for maintaining them.

Funding

1. A large part of the research funding, particularly for more innovative projects which local sources would not support, has been available from external sources.

2. Because of a long-time association with one external assistance agency, needed funding for research has dovetailed nicely with other program funding sources.

3. Considerable flexibility in the use of outside funding for research projects has been possible and encouraged whenever interim findings indicate needed changes in research and evaluation projects.

4. Salary supplements have been available to recruit promising evaluation staff candidates and to maintain a nucleus of key experienced research staff.

Use of Results

1. Field experiments and pilot projects have been designed to clearly illustrate the value of breaking out of current program practice limits. The excellent survey facilities have been used to provide baselines for these pilot approaches. Many times these demonstration projects have been suggested by field observation and the results of larger social surveys.

2. An early warning system is used to build in self-evident feedback systems to increase the evaluative component so that failures, successes, and problems can be identified early (e.g., with mailing campaigns, the coupon system, free offers).

3. Field and program staff who need the research results are involved early. They have requested solutions to problems. They help plan the study to the extent of their research capabilities; they are kept informed of activities; they revise questionnaires. When results come in they participate in analysis where possible. Their skepticism of results keeps research staff alert.

4. Final decisionmaking based on whether to take on research and to apply findings has rested for the most part with a director who has been sensitive both to research and program activities.

5. Resident foreign advisors have been important in helping translate research findings into program implementation for the consumer's satisfaction and helping maintain continuing liaison between program and research staff. An important aspect has been capsulizing research results into simplified steps that are feasible in an action setting.

6. Early analysis reports are mimeographed and distributed for discussion and comment.

7. Field staff are briefed thoroughly about results affecting their work.

8. Linkage between research and program has been cumulative: program needs are met not only by new research projects but also by examining the bank of accumulated knowledge of many previous studies. Applied results of one study lead to feedback and re-examination of the newly acquired and older accumulated data. These may lead to a new study. Many action results were possible because they were supported by findings from more than one research project.

9. The continuing liaison between program and research staff is assisted by such groups as the education evaluation committee who plan the IEC program in terms of what the accumulated body of knowledge is, the program's goals, the staffing, limited funding, and limitations of various IEC approaches.

Documentation and Dissemination

The Taiwan program has been of special interest to the international community for more than a decade. Various aspects of its program have been incorporated into other national programs in Asia (Indonesia, the Philippines, Thailand, Korea, and Vietnam), e.g., the methods of selection, training, and types of home-visiting field workers, the use of targets, diffuser incentives, the coupon system to quickly get data on numbers and characteristics of recent contraceptive acceptors, regular sample follow-up surveys of acceptors, how to set up small pilot studies to get quick results.

This diffusion of Taiwan's experience seems to be due to a number of factors: the program was the earliest "successful" one in the area; the results were widely publicized as the program progressed; the quality of vital data was exceptional; and thousands of Asians visited the program to learn about specific aspects both before their countries began programs and while they were starting them. Moreover, both the Population Council and the University of Michigan Population Studies Center disseminated considerable publicity about the program among other countries and in the U.S. The Council and other population agencies provided funding to key leaders in programs (or potential programs) to visit

Taiwan. There was extensive documentation of program activities--particularly many well-documented "demonstration-type" studies. And both resident foreign advisory and program operation staff from Taiwan have gone to other assignments on population in Asia and other countries and carried over this experience.

Some strengths include:

1. The government has a policy of encouraging aid to other developing countries--e.g., study of the land reform and agricultural development--and therefore helps support activities of the Chinese Center for International Training in Family Planning. The Center draws on Committee programs and research staff on a part-time basis. This arrangement assures the several hundred visitors from Asian countries annually of up-to-date simplified summaries of research and program results. Many of these countries have adapted aspects of Taiwan's approaches to their programs: type and training of field workers and diffuser incentives.

2. Extensive documentation helps other local scholars and government planners get a firmer baseline before carrying out their own studies. Frequent visits have led to cooperative research efforts to get at problems such as son preference that may require methodological approaches in which Committee staff have less skill.

3. Selected mailing lists drawn from interested visitors allow related materials to be sent intermittently to key program and research staff, particularly in Asia.

4. Findings are frequently simplified and tailor-fitted to different audiences: local and national economic planners, field staff, other program staff, funding agencies, university students, and international visitors.

5. Important studies are quickly written up and sent to journals which get them to an interested and large audience quickly--e.g., Studies in Family Planning. United States university and local resident advisory staff have been helpful in expediting this process.

6. An annotated bibliography of some 300 key articles is available. A summary of more than 100 studies provides a brief description, findings and references. Simplified chartbooks provide graphic illustrations of the findings of key new studies and their relation to one another in terms of the population problem in Taiwan.

7. Collections of articles on specific topic areas are assembled--for example, 47 recent articles on IEC activities.

8. Interim reports, bimonthly, quarterly, semi-annual and annual reports on program and research progress and quarterly program plans help keep staff alert to developments and help maintain a production schedule. The several funding agencies also can keep abreast and apply pressures where needed.